

WHAT IS CLAIMED IS:

1. A method of retrieving a complete copy of data from a plurality of stored copies of the data, the plurality of stored copies contained in a different set of sectors in a disc storage system, the method comprising:
- (a) selecting one of the copies from the plurality of stored copies;
 - (b) identifying defective sectors in the selected copy;
 - (c) locating replacement sectors from the plurality of stored copies other than the selected copy; and
 - (d) merging sectors from the selected copy with replacement sectors defining the complete copy.
2. The method of claim 1 wherein step (a) includes selecting one of the copies from the plurality of stored copies having a longest sequence of error free sectors.
3. The method of claim 1 wherein each of the plurality of stored copies of data comprises at least one defective sector from which data is not recoverable.
4. The method of claim 1, wherein the selecting one copy step (a) comprises:
- (a)(1) sequentially reading each sector of the set of sectors from each of the plurality of stored copies;
 - (a)(2) recording a number of error free sectors read before a first defective sector is encountered when each of the plurality of copies is sequentially read in accordance with step (a)(1); and
 - (a)(3) identifying one copy having a longest sequence of error free sectors from the recorded number of error free sectors corresponding to each copy of the plurality of stored copies.

10/29/2006 10:29:00

5. The method of claim 1, wherein the locating replacement sectors step (c) is performed by locating the set of sectors of at least one of the plurality of stored copies other than the selected copy, wherein the locating is restricted to
5 reading sectors within the set of sectors that can replace defective sectors identified in step (b).

6. The method of claim 1, wherein the merging sector step (d) is performed in a buffer memory.

10

7. The method of claim 1, wherein the plurality of stored copies is all contained on one disc surface.

8. The method of claim 1, wherein individual copies of the plurality of
15 stored copies are distributed on different disc surfaces.

9. The method of claim 1, wherein individual copies of the plurality of stored copies are interleaved.

20 10. A disc drive storage system implementing the method of claim 1.

11. A disc drive storage system, comprising:
at least one rotatable disc having a disc surface including a plurality of
stored copies of information, with information of each of the
25 plurality of stored copies contained in a different set of sectors;
a transducer head configured to read data from the disc surface; and
a controller configured to select one copy of the plurality of stored copies
from which information is recoverable, and to identify defective
sectors in the selected copy, and to locate replacement sectors

09893262-062701

from the other stored copies, and to merge sectors from the selected copy with the replacement sectors defining a complete copy of the stored information.

- 5 12. The disc drive storage system of claim 11 wherein the controller is further adapted to select one copy of the plurality of stored copies having a longest sequence of error free sectors.
- 10 13. The disc drive storage system of claim 11 wherein each of the plurality of stored copies of information comprises at least one defective sector from which data is not recoverable.
- 15 14. The disc drive storage system of claim 11, wherein the controller is further adapted to sequentially read each sector from each of the plurality of stored copies, and to record a number of error free sectors read before a first defective sector is encountered when each of the plurality of stored copies is read, and to identify the copy having a longest sequence of error free sectors from the recorded number of error free sectors corresponding to each copy of the plurality of stored copies.
- 20 15. The disc drive data storage system of claim 11, wherein the controller is further adapted to selectively read the set of sectors of at least one of the plurality of stored copies other than the copy having a longest sequence of error free sectors.
- 25 16. The disc drive data storage system of claim 11, further including a buffer memory to temporarily store the complete copy.

10/22/90 - 292262-062701

17. The disc drive data storage system of claim 11, wherein the plurality of stored copies is all contained on one disc surface.

18. The disc drive data storage system of claim 11, wherein individual
5 copies of the plurality of stored copies are distributed on different disc surfaces.

19. The disc drive data storage system of claim 11, wherein individual copies of the plurality of stored copies are interleaved.

10 20. A disc drive storage system for storing information on a surface of a rotating disc, the disc surface including a plurality of stored copies of information, with information of each of the plurality of stored copies contained in a different set of sectors, the system comprising:

15 a transducer head configured to read information from the disc surface; and

a controller means for selecting one copy of the plurality of stored copies from which information is recoverable, and for identifying defective sectors in the selected copy, and for locating replacement sectors from the other stored copies, and for

20 merging sectors from the selected copy with the replacement sectors defining a complete copy of the stored information.

09893262-062701
10/29/2007 2:23:50 PM